

MICHIGAN DEPARTMENT OF TRANSPORTATION
Operations Administrative Services
Automotive & Equipment Fleet Administration

Spec. No. 04-1094.05

January, 2005

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**SPECIFICATION: TRUCK: Cab & Chassis (GVWR 44,000 lbs., min.)
300 HP Diesel Engine**

I GENERAL

The intent of this specification is to provide a multi year contract for truck cab and chassis which will be built up as winter maintenance trucks. The truck chassis shall be the latest current model year under production at the time the purchase order is written. Each truck delivered shall comply with all current State and Federal safety regulations. **ALL INFORMATION NECESSARY TO SHOW COMPLIANCE WITH THESE SPECIFICATIONS NOT GIVEN ON ADVERTISING DATA SHEETS SHALL BE SUPPLIED IN WRITING AND ATTACHED TO THE BID PROPOSAL.** Read this specification carefully. Any and all exceptions to this specification must be written on or attached to the bid proposal. Non-compliance can void your quotation.

II PRECONSTRUCTION MEETING AND PROGRESS SCHEDULE

Within 15 days of the purchase order date the bidder is to meet with Department personnel in Lansing to provide a written progress schedule and completion date for the work and to review terms and requirements of the order.

III LIQUIDATED DAMAGES

The delivery of vehicles must be consistent with the scheduling as established within the Purchase Order. If any vehicles are not delivered within the delivery schedule specified, the delay will interfere with the proper implementation of the fleet management programs utilizing these vehicles, to the loss and damage of the State of Michigan. From the nature of the case, it would be impracticable and extremely difficult to fix the actual damage sustained in the event of any such delay.

The State of Michigan and the Contractor, therefore, agree that in the event of any such delay, the amount of damage which will be sustained from a delay will be the amount set forth in Paragraphs A and B. They agree that in the event of such delay, the contractor shall pay such amounts as liquidated damages and not a penalty. The State of Michigan as its option for amounts due as liquidated damages, may deduct such from any money payable to the Contractor or may bill the Contractor as a separate item.

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III LIQUIDATED DAMAGES - continued

- A. If the Contractor does not deliver the vehicles before the delivery date scheduled, the Contractor shall pay to the State of Michigan fixed and agreed, liquidated damages, for each calendar day between the due date and the date the vehicle is received, but not more than 30 calendar days. In lieu of all other damages due to such non-delivery, an amount of 2/10th of 1% of per unit cost of the Purchase Order for each unit that is not delivered by the delivery date.
- B. If the Contractor delivers the vehicles before the delivery due date specified and the vehicles do not comply with the Purchase Order Specifications and therefore, are not ready for operation, the State of Michigan may, at its option, delay the implementation of the vehicles into fleet operation. The Contractor shall pay to the State of Michigan, as fixed and agreed liquidated damages in the amount of 2/10 of 1% of the Purchase Order Unit Cost per Vehicle, for each calendar day beginning from the delivery date scheduled in the Purchase Order, and the date the vehicle accepted as being in compliance with Purchase Order Specifications, but not more than 30 calendar days. **The delivery date for all units on this PO shall be 240 days from the day the Purchase Order is issued.**
- C. Exception - Except with respect to defaults of subcontractors, the Contractor shall not be liable for liquidated damages when delays arise out of causes beyond the control and without the fault or negligence of the Contractor. Such causes may include, but not be restricted to, acts of God, or of the public enemy, acts of the State in either its' sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, or unusually severe weather; but, in every case, the delays must be beyond the control and without the fault or negligence of the Contractor. If the delays are caused by the default of the subcontractor, and if such default arises out of causes beyond the control of both the Contractor and subcontractor and without the fault or negligence of any of them, the Contractor shall not be liable for liquidated damages for delays, unless the supplies or services to be furnished by their subcontractors were obtainable from other sources in sufficient time to permit the Contractor to meet the required performance schedule.

IV PILOT MODEL INSPECTION

Any Purchase Order that is for more than one unit the successful bidder will be required as part of this order to provide subsistence and transportation for **three (3)** MDOT personnel to inspect and approve the first completed unit constructed, before production begins on the balance of the order. The date and time of inspection shall be agreed upon by the vendor and MDOT.

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V PROGRESS PAYMENTS

Payments will be made on a per each truck basis as the cab and chassis are accepted by the Department. Vendor is to prepare a separate invoice for each unit. Invoice must include truck model, serial numbers, and Purchase Order number.

VI SPECIFICATIONS

Bidder is to complete and return the following portions of the specification. This shall provide detailed information for the equipment offered with this quotation. This information will be used by the Office of Purchasing in determining acceptability of the bid prior to award of purchase order. In addition, MDOT will use this information when comparing as delivered equipment with the information provided here by the vendor.

Quotations may be considered acceptable only in the following circumstances:

1. All blank spaces are completed with either yes or no, and if no list the type of deviation.
2. MDOT minimum requirements are met or exceeded.
3. MDOT maximum requirements are not exceeded.
4. The bidder's offering falls within the minimum and maximum range if both are noted in the same specification item.

If requirements are not available from the manufacturer, the bidder will be expected to make the appropriate substitution at the dealership prior to delivery. **When an appropriate substitution is required vendor shall note this in the Deviation to Specifications section of this specification.** Failure to make such alteration will be cause for non-acceptance by MDOT.

1. I.T.B. No. 0715200340 2. Date: 8/5/05

3. Name and Address of Bidder INTERNATIONAL TRUCK & ENGINE CORP.
8859 BINCINNATI - DAYTON RD. SUITE 2,
WEST CHESTER, OHIO 45069

4. Phone Number (513) 779-6644

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5. Name, address, and phone number of Michigan dealership for warranty, parts and, service.

CAPITAL CITY INTERNATIONAL

GRAND RIVER

LANSING, MI

6. Vendor Contact Person

A. Print name: HENRY W. GANTNER

B. Signature: Henry W. Gantner

C. Phone: 513-779-6644

D. Fax: 513-779-6655

7. Subcontractor, body installer, Etc.

A. Company Name and Address

B. Subcontractor contact person

1. Printed Name: _____

2. Phone: _____

3. Fax: _____

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1. BASIC SPECIFICATIONS

	YES	NO	DEVIATION
Shall be no less than 44,000 GVWR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wheel Base - Approximately 186 inches	<input checked="" type="checkbox"/>	<input type="checkbox"/>	187"
Cab to Axle - 112 inches	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Axle to End Frame - 75 inches	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
This shall be clear, useable space above rails	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Frame Resisting Bending Moment shall equal or exceed 1,100,000 inch pounds	<input checked="" type="checkbox"/>	<input type="checkbox"/>	120,000 PSI 2,654,400 SM = 22.12
Minimum 20 inch integral front frame extension will be required, front only bumper and fenders to be furnished	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hood shall be tilt-forward hood/fenders with:			
a. Service access panels required	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
b. Stationary grill to accommodate MDOT's snow plow hitch is required	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
All items shall be manufacturer's factory standard or optional equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
There shall be a minimum of 30 inches ground clearance from the ground to the frame between rear of cab and rear tires	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Minimum ground clearance shall not be exceeded when loaded with the maximum rated payload	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Drive-line center bearing carrier, running boards, battery box, air tanks and exhaust system shall meet 24 inch minimum ground clearance requirement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Bidder shall furnish two (2) sets of operating, maintenance, and parts manuals to be delivered with the cab and chassis. Failure to deliver manuals will delay payment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WE WILL PROVIDE ACCESS TO FSSIS IF CONTRACT AWARDED

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Comment _____

2. TRANSMISSION

YES NO DEVIATION

Allison 4500 RDS P, Wide Ratio, 6-speed,
includes oil level sensor, PTO provision, less retarder

Transmission to be compatible with engine horse power/torque

✓ _____

Shifter to be dash mounted push button type

✓ _____

Transmission oil cooler shall be water to oil type

✓ _____

Transmission ECU shall be mounted in the cab

✓ _____ Locally installed

Comment _____

3. ENGINE

YES NO DEVIATION

Diesel, Cummins ISM **only** (upgradeable version)

No other engine will be acceptable

✓ _____

305 HP @ 2100 RPM Governed Speed;

1150 lb-ft torque @ 1200 RPM; 320 peak HP (Max.)

✓ _____

Engine Safety Devices;

a. Warning light and alarm when:

1. Engine oil pressure falls below safe operating limit

✓ _____

2. Water temperature exceeds safe operating limit

✓ _____

b. Automatic engine shutdown with:

1. Low engine oil pressure

✓ _____

2. High engine coolant temperature

✓ _____

Crankshaft shall be drilled and tapped for a Spicer driveline,
opening for driveline to be under radiator

✓ _____

Engine Air Breather shall have a manual control (inside cab)
for outside air intake

✓ _____

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Air filter restriction gauge shall be dash mounted,
 Filter Minder #3781-325

✓ _____

3. ENGINE - continued

YES NO DEVIATION

Exhaust shall be vertical stack fitted with heat shield and mounted outside of frame rails to accommodate fuel tank mounting per Michigan Specification 3958-0171

✓ _____

Exhaust shall meet "scraper mounting clearance"

✓ _____

Any exhaust modification necessary to meet ground clearance or any other specification requirement shall be done with manufacturer's standard parts available through regular dealer parts inventories

✓ _____

Any necessary modifications shall be subject to approval by authorized MDOF personnel

✓ _____

In addition to all requirements listed in Specification 3958-0170, the exhaust shall exit the right side of the engine, the muffler shall be horizontally mounted under the cab on the right side, the tail pipe shall be vertically mounted on the right side directly beside the cab

✓ _____

Vertical pipe shall be supported by a frame mounted bracket

✓ _____

Tail pipe shall not be attached to the cab.

✓ _____

Engine block heater shall be 110/120VAC, 1500 watt with "y" cord for fuel heater, block heater socket shall be mounted below drivers door

✓ _____

Fan clutch shall be viscous type, thermostatic control or clutch type

✓ _____

Throttle control shall be electronic

✓ _____

Starting Motor shall be Nippondenso

_____ 1 _____

Engine Oil Filter shall be spin on type

✓ _____

STARTER IS A LEECE-W
 MS-2 - NIPPONDENSO
 NOT A OPTION WITH US BU
 WILL TRY TO GET SET UP

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Water Filter shall be engine mounted	✓	_____	_____
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Fuel Filter shall be engine mounted	✓	_____	_____
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3. ENGINE - continued	YES	NO	DEVIATION
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Engine Anti-freeze shall be Shell Rotella Extended Life or approved equal	✓	_____	_____
---	---	-------	-------

Engine shall have a deaeration system with surge tank	✓	_____	_____
---	---	-------	-------

Fuel/Water Separator shall be Davco Fuel pro 382 (382040) with 120V pre-heater and thermostatic fuel temperature control	✓	_____	_____
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Comment _____

4. STEERING	YES	NO	DEVIATION
--------------------	------------	-----------	------------------

Steering Column shall be tilting type	✓	_____	_____
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Steering wheel shall be two spoke, 18" diameter, and black	✓	_____	_____
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Dual steering gears shall be provided	✓	_____	_____
---------------------------------------	---	-------	-------

Comment _____

5. AXLES	YES	NO	DEVIATION
-----------------	------------	-----------	------------------

Non-driving front axle shall be wide track, I-beam type, capacity 18,000-lb minimum	✓	_____	_____
---	---	-------	-------

a. Front wheel hubs shall be oil lubricated with clear caps having fill plugs, filled with 75W90 synthetic oil	✓	_____	_____
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Single rear axle capacity shall be 26,000-lb minimum	✓	_____	_____
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Rear axle shall be single reduction standard track

100
20

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- a. Dust shields all wheels
- b. Automatic slack adjusters front and rear
- c. Air Dryer shall be Meritor-Wabco System Saver 1200 with spin on filter mounted outside frame rail
- d. Long stroke, sealed air brake chambers
- e. 12cfm minimum water cooled, air compressor
- f. 2,000 cubic inch minimum air reservoir

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with twist type drain

g. Buzzer type low pressure continuous
warning device

✓		
✓		

7. BRAKES – continued

YES NO DEVIATION

h. Automatic reservoir drain valves with heaters
shall be Expello brand part number 995-111
or equivalent

i. Spring loaded diaphragm type rear
wheel parking brake

j. Air pressure gauge(s) visible to driver

k. Check valve or equivalent safety
device between reservoir tank(s)

l. Air brake ABS

m. Color coded nylon brake lines

n. Instrument panel mounted, color coded
yellow parking brake valve

o. Spring brake modulator valve

p. Trailer connections, four wheel, hand control
and tractor protection valve mounted at rear
of truck chassis

q. Air tank location shall be under cab,
outside left frame rail, on step bracket,
with 24 inch ground clearance

✓		BENDIX DV-2 w/HEATER
✓		
✓		
✓		
✓		
✓		
✓		
✓		
✓		

Comment _____

8. WHEELS

YES NO DEVIATION

Wheels shall be 22.5 inch hub piloted disc, heavy duty disc
type with hand holds, 10 stud, flanged nut, steel, painted white

Front width shall be 12.25 inches

Rear width shall be 8.25 inches

✓		
✓		
✓		

Comment _____

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✓

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Air horn with covers, mounted top of cab	<input checked="" type="checkbox"/>		<u>Mounted UNDER HOOD</u>
Cab assist handles left and right side	<input checked="" type="checkbox"/>		
Cab inside length shall be minimum 56 inches		<input checked="" type="checkbox"/>	<u>52.4"</u>
11. CAB - continued	YES	NO	DEVIATION
Color shall be Orange acrylic enamel to match PPG Concept DCC 605-10	<input checked="" type="checkbox"/>		
Dash shall be ergonomic type, angled toward driver	<input checked="" type="checkbox"/>		
Defrost duct shall be installed for passenger side window	<input checked="" type="checkbox"/>		
Dome light in cab shall be provided	<input checked="" type="checkbox"/>		
Hour meter shall be mounted in dash in plain sight, oil pressure activated to operate only when engine is running	<input checked="" type="checkbox"/>		
Running boards shall be provided	<input checked="" type="checkbox"/>		
Dash mounted switch for hood mounted snow plow lights, wiring with connectors shall be coiled under hood, MDOT to supply and install snow plow lights	<input checked="" type="checkbox"/>		
Windows shall be power, switch shall be easily accessible to driver	<input checked="" type="checkbox"/>		
Power terminal stud shall be 12volt, mounted on firewall in an easily accessible position, under the hood. This shall be an unfused connection to 12volt power at the starter solenoid with 6 gauge cable, 5/16 diameter stud, threaded for standard nut, insulated from firewall with removable insulated cover	<input checked="" type="checkbox"/>		
Pre-wiring for two-way radio with 20 amp fuse protection, including ignition wire with 5amp fuse, wire ends heat shrink and 10 foot coil taped to base harness shall be provided	<input checked="" type="checkbox"/>		
Gauges shall include a minimum of: a. Voltmeter/Ammeter	<input checked="" type="checkbox"/>		

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b. Oil pressure	✓		
c. Coolant temperature	✓		
d. Tachometer	✓		
e. Fuel level	✓		
f. Transmission temperature	✓		

Interior finish shall exclude excessive noise and weather	✓		
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11. CAB - continued	YES	NO	DEVIATION
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Clearance lights shall be provided on top of cab	✓		
--	---	--	--

Tinted safety glass shall be provided	✓		
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Floor covering shall be rubber, black in color	✓		
--	---	--	--

Three point lap shoulder mount seat belts shall be provided	✓		
---	---	--	--

Power door locks both left and right sides	✓		
--	---	--	--

Fresh air filter for HVAC	✓		
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Sun visor for both driver and passenger shall be provided	✓		
---	---	--	--

Radio shall be AM/FM/weatherband/clock factory installed	✓		
--	---	--	--

Head light dimmer shall be incorporated in turn signal lever	✓		
--	---	--	--

Comment _____			
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12. ELECTRICAL	YES	NO	DEVIATION
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Electrical system shall be 12volt	✓		
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Manufacturer's recommended batteries for diesel engine quoted; but, minimum of three batteries and total of 2,700 CCA	✓		
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Alternator shall be 130amp minimum,	✓		
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Delco 33SI or approved equal

☒

*NEW REPLACEMENT VERSION
 DELCO 34SI 135AMP*

Battery box shall be mounted left side back of cab

☒

MS-2 LEECE-NEVILLE

Starter shall be a Nippondenso

☒

*WILL TRY TO GET NIPPONDEN
 BRAND SET UP.*

Turn signal switch shall be self canceling,
 head light dimmer, with flash to pass

☒

12. ELECTRICAL - continued

YES NO DEVIATION

Starter switch shall be electric, key operated

☒

Windshield wipers shall be single, cowl mounted electric motor,
 with 2 speed integral with turn signal switch
 including wash and intermittent feature

☒

Data link connector shall be in cab for vehicle
 programming and diagnostics

☒

Cigar lighter shall be provided

☒

Body builder wiring to be standard back of cab at left frame
 including sealed connectors for tail/ amber turn/marker/
 backup/ accessory power/ground and stop/turn

☒

Headlights shall be long life halogen, two light system

☒

Auxiliary switch for plow lights shall be 40amp

☒

Auxiliary plow light harness shall terminate at the left
 front headlight area, under hood

☒

Turn signals shall be front dual face, amber/red, mounted
 on the top of fender

☒

Daytime running lights shall be provided

☒

Trailer connector shall be 7-way mounted at rear of frame,
 wired for turn signals independent of stop, compatible with
 trailers that have amber or side turn lamps

☒

August 12, 2005

Prepared For:
MICHIGAN STATE OF
DANIEL E. SMITH
425 W. OTTAWA STREET
LANSING, MI 48909
1517-3732090

Presented By:
International Truck & Engine Corp.
Henry Gantner
8857 Cincinnati - Dayton
Suite 201 P.O.Box 876
West Chester, OH 450690876
(513)779-6644

Model Profile
2006 7600 SFA 4x2 (SA547)

MISSION:	Requested GVWR: 44000. Calc. GVWR: 44000
DIMENSION:	Wheelbase: 187, CA: 112, Usable CA: 112., Axle to Frame: 75
ENGINE, DIESEL:	{Cummins ISM 320V} 50 State 305 HP @ 2100 RPM Governed Speed; 1150 lb-ft Torque @ 1200 RPM; 320 Peak HP (Max)
TRANSMISSION, AUTOMATIC:	{ALLISON 4500_RDS_P} Wide Ratio, 6-Speed, With Double Overdrive; Includes Oil Le vel Sensor, With PTO Provision, Less Retarder
CLUTCH:	Omit Item (Clutch & Control)
AXLE, FRONT NON-DRIVING:	{Meritor MFS-18-133A} Wide Track, I-Beam Type, 18,000-lb Capacity
AXLE, REAR, SINGLE:	{Meritor RS-26-185} Single Reduction, Standard Track, 26,000-lb Capacity, Includ es Driver Controlled Main Locking Differential and "R" Wheel Ends
CAB:	Gear Ratio: 5.63
TIRE, FRONT:	Conventional, Steel
TIRE, REAR:	(2) 385/65R22.5 UNISTEEL G286A (GOODYEAR) 490 rev/mile, load range J, 18 ply
SUSPENSION, RR, SPRING, SINGLE:	(4) 12R22.5 UNISTEEL G124 M+S (GOODYEAR) 482 rev/mile, load range H, 16 ply
	Vari-Rate; 31,000-lb Capacity, Includes 4500-lb Capacity Multileaf Auxiliary

Vehicle Specifications
2006 7600 SFA 4x2 (SA547)

August 12, 2005

<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lb)	<u>Tot Wt</u> (lb)
SA54700	Base Chassis, Model 7600 SFA 4X2 with 187 Wheelbase, 112 CA, 112. Usable CA, and 75 Axle to Frame.	7462/4433	11895
1CAJ	FRAME RAILS Heat Treated Alloy Steel (120,000 PSI Yield); 10.866" x 3.622" x 0.433" (276.0mm x 92.0mm x 11.1mm); 456.0" (11582mm) Maximum OAL	178/474	652
1LLA	BUMPER, FRONT Steel, Swept Back	0/0	0
	<u>Includes</u> : PLEASE NOTE: Powder Coated Gray (Argent) Color		
1WDS	FRAME EXTENSION, FRONT Integral; 20" In Front of Grille	157/34	191
1WHB	WHEELBASE RANGE 156" (395cm) Through and Including 201" (510cm)	0/0	0
2ARZ	AXLE, FRONT NON-DRIVING {Meritor MFS-18-133A} Wide Track, I-Beam Type, 18,000-lb Capacity	141/0	141
3708	SHOCK ABSORBERS, FRONT	47/0	47
3770	SPRINGS, FRONT AUXILIARY Rubber	10/0	10
3ACR	SUSPENSION, FRONT, SPRING Multileaf, Shackle Type; 18,000-lb Capacity; Less Shock Absorbers	117/0	117
	<u>Includes</u> : SPRING PINS Rubber Bushings, Maintenance-Free		
4091	BRAKE SYSTEM, AIR Dual System for Straight Truck Applications	0/0	0
	<u>Includes</u> : AIR COMPRESSOR AIR SUPPLY LINE International Engines Naturally-Aspirated : AIR COMPRESSOR AIR SUPPLY LINE Cummins, Caterpillar Engines Turbo-Charged : BRAKE CHAMBERS, SPRING (2) Rear Parking : BRAKE LINES Color Coded Nylon : DUST SHIELDS, REAR BRAKE : DUST SHIELDS, FRONT BRAKE : SLACK ADJUSTERS, FRONT Automatic : SLACK ADJUSTERS, REAR Automatic : PARKING BRAKE VALVE Color-Coded Yellow Knob, Located on Instrument Panel : DRAIN VALVE Twist-Type : SPRING BRAKE MODULATOR VALVE : GAUGE, AIR PRESSURE Air 1 and Air 2 Gauges; Located in Instrument Cluster		
4193	BRAKES, FRONT, AIR CAM 16.5" x 6", Includes 24 SqIn Long Stroke Chambers	0/0	0
	<u>Includes</u> : DUST SHIELDS, FRONT BRAKE		
4619	TRAILER CONNECTIONS Four-Wheel, With Hand Control Valve and Tractor Protection Valve, for Straight Truck	4/4	8
4722	DRAIN VALVE, AUTOMATIC {Bendix DV-2} With Heater; for Air Tank	1/0	1

Vehicle Specifications
2006 7600 SFA 4x2 (SA547)

August 12, 2005

<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lb)	<u>Tot Wt</u> (lb)
4773	BRAKE SHOES, REAR Cast	0/50	50
4AZA	AIR BRAKE ABS {Bendix AntiLock Brake System} Full Vehicle Wheel Control System (4-Channel)	0/0	0
4EBD	AIR DRYER {Meritor-Wabco System Saver 1200} Mounted in Standard Location	11/7	18
4EUU	BRAKE CHAMBER IDENTITY, SPRING {MGM Type TR-TS Long Stroke}	0/0	0
4NCE	BRAKES, REAR, AIR CAM 16.5" x 7.0"; Includes MGM TR3030 Long Stroke Brake Chamber and Heavy Duty Spring Actuated Parking Brake	0/0	0
4SPA	AIR COMPRESSOR {Cummins} 18.7 CFM	0/0	0
4VCJ	AIR TANK LOCATION (2) Mounted Under Cab, Outside Left Rail, On Step Bracket, With 24" Ground Clearance	0/0	0
5708	STEERING COLUMN Tilting	0/0	0
5CAL	STEERING WHEEL 2-Spoke, 18" Diam., Black	0/0	0
5PTB	STEERING GEAR (2) {Sheppard M-100/M-80} Dual Power	50/0	50
7BAV	EXHAUST SYSTEM Single, Horizontal Muffler, Vertical Tail Pipe, Aluminized Steel; Includes Tail Pipe Guard; Frame Mounted Right Side Under Cab, Outside Rail	0/0	0
8000	ELECTRICAL SYSTEM 12-Volt, Standard Equipment	0/0	0
	<u>Includes</u> : BATTERY BOX Steel with Fiberglass Cover; Mounted Right Side, Back of Cab : TURN SIGNAL SWITCH Self-Cancelling, Headlight Dimmer (with Flash-To-Pass Feature) : HEADLIGHTS (2) Sealed Beam Halogen, 5" X 7" Rectangular, with Chrome Plated Bezels : HORN, ELECTRIC Single : PARKING LIGHT Integral with Front Turn Signal and Rear Tail Light : STOP, TURN, TAIL & B/U LIGHTS Dual, Rear, Combination with Reflector : STARTER SWITCH Electric Key Operated : TURN SIGNALS, FRONT Includes Reflectors and Auxiliary Side Turn Signals, Solid State Flashers; Flush Mounted : DATA LINK CONNECTOR For Vehicle Programming and Diagnostics In Cab : WINDSHIELD WIPERS Single Motor, Electric, Cowl Mounted : WINDSHIELD WIPER SWITCH 2-Speed with Wash and Intermittent Feature, Integral with Turn Signal Switch : WIRING, CHASSIS Color Coded and Continuously Numbered		
8518	CIGAR LIGHTER	1/0	1
8GDS	ALTERNATOR {Delco Remy 34-SI} 12-Volt 135 Amp. Capacity, Brushless; With Pad Mounting	11/0	11

Vehicle Specifications
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<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lb)	<u>Tot Wt</u> (lb)
8HAB	BODY BUILDER WIRING Back of Standard Cab at Left Frame or Under Extended or Crew Cab at Left Frame; Includes Sealed Connectors for Tail/Amber Turn/Marker/ Backup/Accessory Power/Ground and Sealed Connector for Stop/Turn	3/0	3
8MKX	BATTERY SYSTEM {International} Maintenance-Free (3) 12-Volt 2775CCA Total	7/1	8
8REA	2-WAY RADIO Wiring Effects; Wiring With 20 Amp Fuse Protection, Includes Ignition Wire With 5 Amp Fuse, Wire Ends Heat Shrink and 10' Coil Taped to Base Harness	2/0	2
8RGS	RADIO {International} AM/FM Stereo With Weatherband, Clock, Includes Multiple Dual Cone Speakers	6/0	6
	<u>Includes</u> : SPEAKERS IN CAB (4) Coaxial with Premium Interior : SPEAKERS IN CAB (2) Dual-Cone with Deluxe Interior		
8SAJ	SWITCH, BODY CIRCUITS, MID for Body Builders; 12 Switches in Instrument Panel, With Two Power Modules With 6 Channels, 20 Amp Max. per Channel, 80 Amp Max Output, Switch Control Power Modules Through Multiplex Wiring, Mounted on Battery Box BOC	4/0	4
8THJ	AUXILIARY HARNESS 3.0' for Auxiliary Front Head Lights and Turn Signals for Front Plow Applications	2/0	2
8TME	TRAILER CONNECTION SOCKET 7-Way; Mounted at Rear of Frame, Wired for Turn Signals Independent of Stop, Compatible With Trailers That Have Amber or Side Turn Lamps	0/7	7
8WCL	HORN, AIR {Grover} Black, Single Trumpet, Air Solenoid Operated, Mounted Behind Bumper on Right Rail	0/0	0
8WEJ	BATTERY BOX Steel, With Fiberglass Lid; 35" Back of Cab, Mounted Left Side Perpendicular to Frame Rail	0/0	0
8WLS	TURN SIGNALS, FRONT Dual Face, Amber/Red, Mounted on Top of Fender, Used With Standard Flush Mounted Front Turn Signal, Side Marker Lamps, Parking Lights and Reflectors	3/0	3
8WML	HEADLIGHTS Long Life Halogen; for Two Light System	0/0	0
	<u>Includes</u> : RUNNING LIGHT (2) Daytime		
8WWM	STARTING MOTOR {Leece-Neville MS2} 12-Volt; less Thermal Over-Crank Protection	0/0	0
8XAH	CIRCUIT BREAKERS Manual-Reset (Main Panel) SAE Type III With Trip Indicators, Replaces All Fuses Except For 5-Amp Fuses	0/0	0
8XBK	SWITCH, AUXILIARY Switch 40 amp Circuit for Customer Use; Includes Wiring Connection at PDC and Control in Cab	2/0	2
9579	FENDER EXTENSIONS Injection Molded TPO	0/0	0

<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lb)	<u>Tot Wt</u> (lb)
9ANL	HOOD, HATCH (2) One each side for Servicing	14/0	14
9HBM	GRILLE Stationary, Chrome	5/0	5
9WAY	FRONT END Tilting, Fiberglass, With Three Piece Construction	0/0	0
10060	PAINT SCHEMATIC, PT-1 Single Color, Design 100	0/0	0
	<u>Includes</u> : PAINT SCHEMATIC ID LETTERS "GR"		
10761	PAINT TYPE Base Coat/Clear Coat, 1-2 Tone	0/0	0
10769	PAINT CLASS Premium Color.	0/0	0
10WPK	GROUND CLEARANCE IDENTITY For 24" Ground Clearance.	0/0	0
11001	CLUTCH Omit Item (Clutch & Control)	-132/-24	-156
12851	PTO EFFECTS, ENGINE FRONT Less PTO Unit, Includes Adapter Plate on Engine Front Mounted	10/0	10
12CWZ	ENGINE, DIESEL {Cummins ISM 320V} 50 State 305 HP @ 2100 RPM Governed Speed; 1150 lb-ft Torque @ 1200 RPM; 320 Peak HP (Max)	0/0	0
	<u>Includes</u> : GAUGE, AIR CLEANER RESTRICTION Air Cleaner Mounted : AIR CLEANER with Vacuator; Remote Mounted : CRUISE CONTROL Electronic : ENGINE SHUTDOWN Electric, Key Operated : GOVERNOR Electronic : THROTTLE, HAND CONTROL Electronic, Instrument Panel Mounted : ENGINE OIL DRAIN PLUG Magnetic : OIL FILTER, ENGINE Spin-On Type : TIMER Idle Shutdown : WATER FILTER Engine Mounted : FUEL FILTER Engine Mounted		
12THJ	FAN DRIVE {Horton Drivemaster} Automatic On/Off Type Control, With Normally Closed Temperature Control	0/0	0
	<u>Includes</u> : FAN Nylon		
12UVP	RADIATOR Cross Flow, Series System; 1150 SqIn Aluminum Radiator Core and 1030 SqIn Charge Air Cooler	0/0	0
	<u>Includes</u> : ANTI-FREEZE Shell Rotella Extended Life Coolant -40F (-40C) : DEAERATION SYSTEM with Surge Tank : RADIATOR HOSES Premium, Rubber		
12UXT	FEDERAL EMISSIONS for 2002; for Cummins ISM Engines	0/0	0

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<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lb)	<u>Tot Wt</u> (lb)
12VAG	AIR CLEANER Single Element, with Integral Snow Valve and In-Cab Control	3/0	3
12WCT	BLOCK HEATER, ENGINE {Phillips} 120 Volt/1500 Watt With "Y" Cord for Fuel Heater; Cord to Operate Both Heaters	3/0	3
	<u>Includes</u> : BLOCK HEATER SOCKET Receptacle Type; Mounted below Drivers Door		
13AGV	TRANSMISSION, AUTOMATIC {ALLISON 4500_RDS_P} Wide Ratio, 6-Speed, With Double Overdrive; Includes Oil Level Sensor, With PTO Provision, Less Retarder	259/114	373
	<u>Includes</u> : TRANSMISSION OIL PAN Magnet in Oil Pan		
13WAW	OIL COOLER, AUTO TRANSMISSION {Modine} Water to Oil, for Allison or CEEMAT Transmission	25/0	25
13WBL	TRANSMISSION SHIFT CONTROL {ALLISON} Push-Button Type; for Allison 3000 & 4000 Series Transmission	0/0	0
13WUC	ALLISON SPARE INPUT/OUTPUT for Rugged Duty Series (RDS); General Purpose Trucks, Construction	0/0	0
14ASA	AXLE, REAR, SINGLE {Meritor RS-26-185} Single Reduction, Standard Track, 26,000-lb Capacity, Includes Driver Controlled Main Locking Differential and "R" Wheel Ends Gear Ratio: 5.63	0/144	144
	<u>Includes</u> : REAR AXLE DRAIN PLUG (1) Magnetic		
14SAL	SUSPENSION, RR, SPRING, SINGLE Vari-Rate; 31,000-lb Capacity, Includes 4500-lb Capacity Multileaf Auxiliary	0/14	14
15LGM	FUEL/WATER SEPARATOR {Davco Fuel Pro 382 (382040)} With 120V PRE HEATER and Fuel Heated, Thermostatic Fuel Temperature Control Mounted In Standard Position	9/0	9
15SKZ	FUEL TANK Temporary; Top Draw; D-Style, Steel, 16" Tank Depth, 50 U.S. Gal., 189 L; Capacity, With Quick Connect Outlet, Mounted Left Side Back of Cab	55/85	140
16030	CAB Conventional, Steel	0/0	0
	<u>Includes</u> : CLEARANCE/MARKER LIGHTS (5) Flush Mounted : ARM REST (2) Molded Plastic, Smoke Gray; One Each Door : FLOOR COVERING Rubber, Black : COAT HOOK Located on Rear Wall, Centered Above Rear Window : GRAB HANDLE, CAB INTERIOR (1) "A" Pillar Mounted, Passenger Side : GRAB HANDLE, CAB INTERIOR (2) "B" Pillar Mounted, One Each Side : STEP (2) Two Steps Per Door : GLASS, ALL WINDOWS Tinted		
16HBA	GAUGE CLUSTER English With English Electronic Speedometer	0/0	0

<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lb)	<u>Tot Wt</u> (lb)
	<u>Includes</u> : ODOMETER DISPLAY, Miles, Trip Miles, Engine Hours, Trip Hours, Fault Code Readout : WARNING SYSTEM Low Fuel, Low Oil Pressure, High Engine Coolant Temp, and Low Battery Voltage (Visual and Audible) : GAUGE CLUSTER (6) Engine Oil Pressure (Electronic), Water Temperature (Electronic), Fuel (Electronic), Tachometer (Electronic), Voltmeter, Washer Fluid Level		
16HGH	GAUGE, OIL TEMP, ALLISON TRAN	1/0	1
16HHE	GAUGE, AIR CLEANER RESTRICTION {Filter-Minder} With Black Bezel Mounted in Instrument Panel	2/0	2
16JNT	SEAT, DRIVER {National 2000} Air Suspension, High Back With Integral Headrest, Vinyl, Isolated, With 2 Position Front Cushion Adjustment, -3 to +14 Degree Seat Back Adjustment, Single Chamber Air Lumbar Support	0/0	0
16RPV	SEAT, PASSENGER {National 2000} Air Suspension, High Back With Integral Headrest, Vinyl, Isolated, With 2 Position Front Cushion Adjustment, -3 to +14 Degree Seat Back Adjustment, Single Chamber Air Lumbar Support	57/23	80
16SDU	MIRRORS (2) {Lang Mekra} Styled; Rectangular, 7.09" x 15.75", Brackets Breakaway Type, With 102" Wide Spacing, With Integral Convex Both Sides, With All Heated Heads, Thermostatically Controlled, With Clearance Lights LED, Powered Both Sides, Bright Heads & Brackets	9/0	9
16SEE	GRAB HANDLE Chrome; Towel Bar Type Anti-Slip Rubber Inserts; for Cab Entry Mounted Left Side Only	3/0	3
16WBY	ARM REST, RIGHT, DRIVER SEAT	3/0	3
16WBZ	ARM REST, LEFT, PASSENGER SEAT	3/0	3
16WJT	INSTRUMENT PANEL Center Section, Ergonomic Panel	0/0	0
16WJU	WINDOW, POWER (2) And Power Locks, Left and Right Doors	10/0	10
16WKB	AIR CONDITIONER {International Blend-Air} With Integral Heater & Defroster	60/0	60
	<u>Includes</u> : REFRIGERANT Hydrofluorocarbon HFC-134A : FRESH AIR FILTER : HEATER HOSES Premium		
16WKY	FRESH AIR FILTER for HVAC	4/0	4
16WLE	STORAGE POCKET, DOOR Molded Plastic, Smoke Gray, Full Width; Mounted on Passenger Door	1/0	1
16WRX	CAB INTERIOR TRIM Deluxe	0/0	0
	<u>Includes</u>		

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<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lb)	<u>Tot Wt</u> (lb)
	: CONSOLE, OVERHEAD Molded Plastic with Dual Storage Pockets and Retainer Nets and CB Radio Pocket; Smoke Gray with Black Netting Over Storage Pockets : "A" PILLAR COVER Molded Plastic, Smoke Gray : HEADLINER Printed Cloth : INSTRUMENT PANEL TRIM Molded Plastic, Drawbridge Gray with Black Center Section, Hidden Cup Holder and Ash Tray (Pull-Out) : DOME LIGHT, CAB Rectangular, Door Activated, Timed Theater Dimming, Center Mounted, Integral to Console : SUN VISOR (2) Padded Vinyl with Driver Side Toll Ticket Strap, Integral to Console : STORAGE POCKET, DOOR (1) Molded Plastic, Smoke Gray, Full-Length; Driver Door : CAB INTERIOR TRIM PANELS Molded Plastic, Full Height; All Exposed Interior Sheet Metal is Covered Except for the Following: with a Two-Man Passenger Seat the Back Panel is Only Partially Covered and with a Full Bench Seat the Back Panel is : DOOR TRIM PANELS (2) Molded Plastic; Driver and Passenger Doors		
16WSK	CAB REAR SUSPENSION Air Bag Type	0/0	0
27DNP	WHEELS, FRONT DISC; 22.5" Painted Steel, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 12.25 DC Rims; With Steel Hubs.	130/0	130
	<u>Includes</u> : WHEEL SEALS, FRONT Oil Lubricated, Includes Wheel Bearings : PAINT IDENTITY, FRONT WHEELS White		
28DMA	WHEELS, REAR DUAL DISC; 22.5" Painted Steel, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 8.25 DC Rims; With Steel Hubs	0/0	0
	<u>Includes</u> : WHEEL SEALS, REAR Oil Lubricated, Includes Wheel Bearings : PAINT IDENTITY, REAR WHEELS White		
29WLA	WHEEL BEARING, FRONT, LUBE {EmGard 50W} Synthetic Oil	0/0	0
7382150192	(4) TIRE, REAR 12R22.5 UNISTEEL G124 M+S (GOODYEAR) 482 rev/mile, load range H, 16 ply	0/104	104
7702650164	(2) TIRE, FRONT 385/65R22.5 UNISTEEL G286A (GOODYEAR) 490 rev/mile, load range J, 18 ply	122/0	122
	Cab Schematic 100GR Location 1: 3026, ORANGE Chassis Schematic N/A		
Total Component Weight:		8875/5470	14345

The weight calculations included in this proposal are an estimate of future vehicle weight. The actual weight as manufactured may be different from the estimated weight. International Truck and Engine Corp. shall not be liable for any consequences resulting from any differences between the estimated weight of a vehicle and the actual weight.

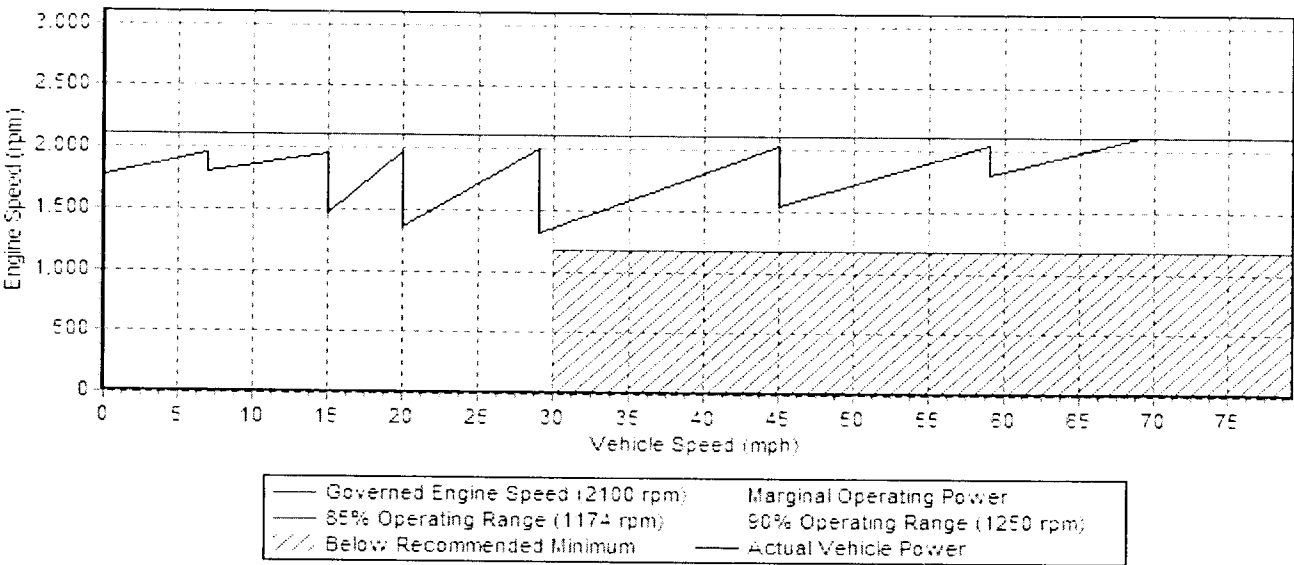
Engine Unit Code: 012CWZ

<u>Parameter</u>	<u>Value</u>	<u>UOM</u>
CRUISE CONTROL	ENABLE	N/A
AUTO ENGINE BRAKE IN CRUISE	DISABLE	N/A
GEAR DOWN PROTECTION	DISABLE	N/A
PTO CONTROL	ENABLE	N/A
IDLE SHUTDOWN	DISABLE	N/A
IDLE SHUTDOWN OVERRIDE	DISABLE	N/A
ENABLE IDLE SHUTDOWN IN PTO	DISABLE	N/A
LOW IDLE ADJUSTMENT	ENABLE	N/A
ENGINE PROTECTION SYSTEM	DISABLE	N/A
POWERSPEC ENABLE	DISABLE	N/A
MAX VEH SPD	69	MPH
MAXIMUM CRUISE CONTROL SPEED	69	MPH
MAX PTO RPM	2100	RPM
IDLE TIME BEFORE SHUTDOWN	15	MIN
DELTA FOR MAX ENG BRAKE	6	MPH
DELTA FOR MIN ENG BRAKE	4	MPH
ENGINE COOLING FAN ON TIME	30	SEC
NEW PASSWORD	000000	N/A
PTO CONTROL - SET PTO RPM	850	RPM
PTO CONTROL - RESUME PTO RPM	900	RPM
REMOTE PTO ENGINE SPEED 1	2100	RPM
GOVERNOR TYPE	AUTO-GOV	N/A
LOW IDLE SPEED	700	RPM

These electronic parameters have been successfully finalized.

ENGINE/TRANSMISSION MATCHING

Sawtooth Grid



Sawtooth Details

Gear	Trans Ratio ----	Upshift Power Avail		Govern Power Avail		Warn	Peak Power Comparison		
		Veh Spd (mph)	Eng Spd (rpm)	Veh Spd (mph)	Eng Spd (rpm)		Gear Step (%)	85% Range (%)	90% Range (%)
1C	4.70	0.0	1775.0	6.9	1962.3	@	N/A	79	68
2C	2.21	6.9	1809.2	14.7	1961.2		N/A	79	68
2L	2.21	14.7	1467.4	19.7	1971.3		N/A	79	68
3L	1.53	19.7	1364.8	28.9	2001.2		N/A	79	68
4L	1.00	28.9	1308.0	44.8	2025.0		N/A	79	68
5L	0.76	44.8	1539.0	59.3	2039.1		N/A	79	68
6L	0.67	59.3	1797.6	69.3	2100.0		N/A	79	68

@ - WHEELSLIP CAN OCCUR AT THE GRADE SHOWN. THE VEHICLE IS CAPABLE OF INCREASED GRADEABILITY IF MORE WEIGHT IS PLACED ON THE DRIVE AXLES.

STEADY STATE PERFORMANCE

		Veh Spd	Eng Spd	Fuel Econ	Grade	Notes
Performance Results	Gear	(mph)	(rpm)	(mpg)	(%)	
LEVEL ROAD MAXIMUM SPEED	6L	72.1	2185	*****	0.00	
HI GEAR SPEED @ RATED RPM	6L	69.3	2100	*****	1.08	
55.0 MPH STEADY-STATE	6L	55.0	1667	*****	2.70	- Calculated Grade Ability/Fuel Economy

VEHICLE ORDER CODING ERRORS MAY RESULT IF THE "LEVEL ROAD MAX SPEED" VALUE EXCEEDS THE "HI GEAR SPEED @ RATED RPM" AND IS USED AS THE ENGINE PROGRAMMABLE VEHICLE SPEED LIMIT.

IDLE FUEL RATE : **** GAL/HR @ 700 RPM

TORQUE CONVERTER: TC-521 STALL RATIO: 2.42

IF THE RESULTS CONTAIN " ----" , VEHICLE CANNOT ATTAIN THAT SPEED.

IF THE RESULTS CONTAIN "*****", THE ENGINE USED DOES NOT HAVE A FUEL MAP. FUEL ECONOMY CANNOT BE PREDICTED.

FUEL ECONOMY

Fuel Economy Route: Normal Route - City, Suburban, and Highway

Key Fuel Economy Information	City	Suburban	Highway	Notes
MILES PER GALLON	*****	*****	*****	
AVERAGE MPH	18.99	39.85	54.61	
MISSION MINUTES	29.8	51.9	173.3	

IF THE RESULTS CONTAIN "*****", THE ENGINE USED DOES NOT HAVE A FUEL MAP. FUEL ECONOMY CANNOT BE PREDICTED.

Performance (TCAPE) Summary
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GRADEABILITY PERFORMANCE

ENROUTE / FULL THROTTLE UPSHIFT PERFORMANCE

Gear	Tran Ratio	Veh Spd (mph)	Eng Spd (rpm)	Whl Pwr (hp)	Grade (%)	Warn Msg	Notes
1C	4.70	0.0	1775.0	0.0	41.4	@	STALL
		3.6	1812.5	164.8	41.4	@	70% EFF
		5.0	1862.5	222.1	40.2		80% EFF
		6.9	1962.3	226.2	28.3		
2C	2.21	6.9	1809.2	184.7	22.7		
2L	2.21	14.7	1961.2	226.5	12.6		
		14.7	1467.4	274.3	15.4		
3L	1.53	19.7	1971.3	267.2	10.9		
		19.7	1364.8	260.7	10.6		
4L	1.00	28.9	2001.2	265.0	7.0		
		28.9	1308.0	249.3	6.5		
		35.4	1600.0	274.8	5.7		
5L	0.76	44.8	2025.0	259.6	3.8		
		44.8	1539.0	270.8	4.0		
		46.5	1600.0	269.0	3.8		
6L	0.67	59.3	2039.1	250.2	2.1		
		52.8	1600.0	265.8	3.0		
		59.3	1797.6	259.9	2.2		
		69.3	2100.0	237.9	1.1		RATED RPM
		70.2	2128.8	237.0	1.00		
		71.2	2157.5	201.7	0.50		
		72.1	2185.4	165.1	0.00		LEVEL ROAD

STARTING GEAR PERFORMANCE

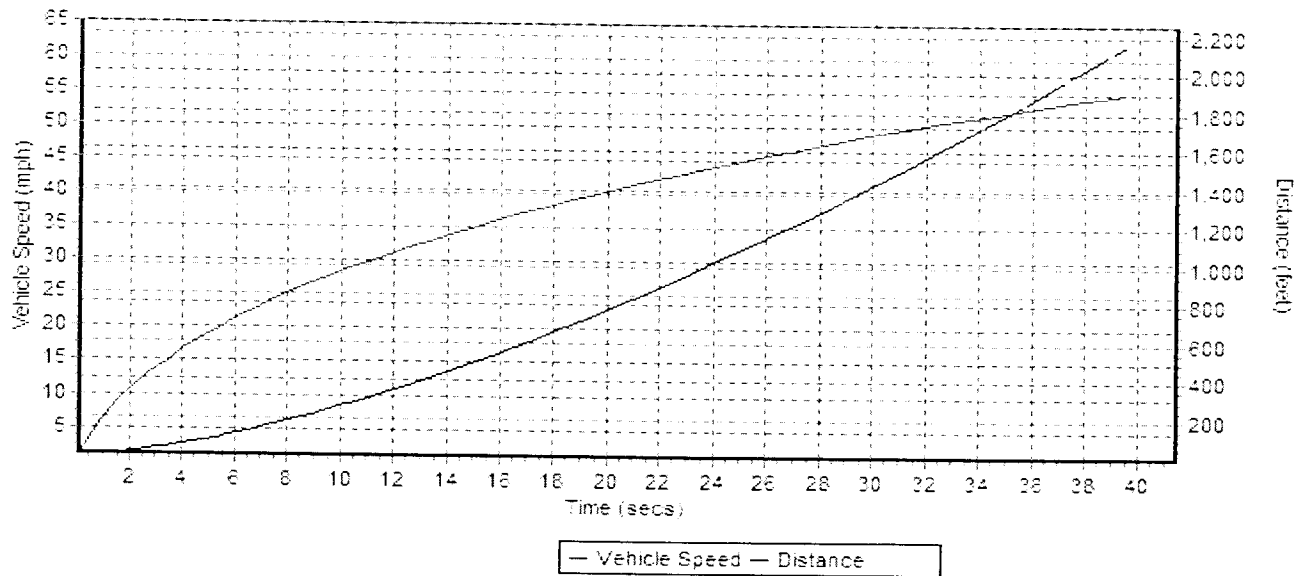
Gear	Tran Ratio	Veh Spd (mph)	Eng Spd (rpm)	Whl Pwr (hp)	Grade (%)	Warn Msg	Notes
1C	4.70	0.0	1775.0	0.0	41.4	@	STALL
		5.0	1862.5	222.1	40.2		80% EFF - Calculated Start Ability

@ - WHEELSLIP CAN OCCUR AT THE GRADE SHOWN. THE VEHICLE IS CAPABLE OF INCREASED GRADEABILITY IF MORE WEIGHT IS PLACED ON THE DRIVE AXLES.

THE TRANSMISSION WAS SIMULATED IN PERFORMANCE OPERATING MODE.

ACCELERATION PERFORMANCE RESULTS

Acceleration Performance Grid



Acceleration Performance: TIME TO ACCELERATE ON A 0.00% GRADE TO 55.0 (MPH) IS 39.50 (SECS)

Acceleration Performance Details

Gear	Time (secs)	Distance (feet)	Speed (mph)	Notes
1	0.15	0.1	1.0	
	0.31	0.5	2.0	
	0.45	1.0	3.0	
	0.59	1.7	4.0	
	0.74	2.7	5.0	
	0.90	4.0	6.0	
2	1.07	5.6	6.9	
	1.31	8.1	7.9	
	1.55	11.1	8.9	
	1.80	14.7	9.9	
	2.08	18.9	10.9	
	2.37	23.8	11.9	
	2.69	29.6	12.9	
3	3.04	36.5	13.9	
	3.33	42.5	14.7	
	3.67	50.0	15.7	
	4.03	58.6	16.7	
	4.41	68.4	17.7	
	4.83	79.4	18.7	
4	5.27	91.9	19.7	
	5.29	92.5	19.7	
	5.75	106.1	20.7	
	6.22	120.7	21.7	
	6.71	136.7	22.7	
	7.23	154.2	23.7	

Performance (TCAPE) Summary
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Gear	Time (secs)	ACCELERATION PERFORMANCE RESULTS		
		Distance (feet)	Speed (mph)	Notes
5	7.77	173.4	24.7	
	8.34	194.5	25.7	
	8.93	217.5	26.7	
	9.56	242.5	27.7	
	10.22	270.0	28.7	
	10.36	275.9	28.9	
	11.09	307.3	29.9	
	11.82	339.8	30.9	
	12.56	373.8	31.9	
	13.31	409.5	32.9	
	14.08	447.3	33.9	
	14.88	487.7	34.9	
	15.71	531.0	35.9	
	16.58	577.3	36.9	
	17.48	626.9	37.9	
6	18.42	679.8	38.9	
	19.40	736.2	39.9	
	20.42	796.4	40.9	
	21.47	860.4	41.9	
	22.57	928.9	42.9	
	23.72	1002.5	43.9	
	24.76	1070.1	44.8	
	25.96	1149.2	45.8	
	27.20	1233.4	46.8	
	28.48	1322.7	47.8	
	29.82	1417.5	48.8	
	31.22	1518.2	49.8	
	32.67	1625.1	50.8	
	34.18	1738.7	51.8	
	35.75	1859.3	52.8	
	37.39	1987.4	53.8	
	39.10	2123.4	54.8	
	39.50	2155.4	55.0	

REQUIRED TCAPE INFORMATION

TCAPE Factors For Vehicle

Selected Rear Axle Gear Ratio(s):	5.63
Transmission Mode:	Performance
Engine Fan Type:	CLUTCH (MODULATED - ON/OFF)
Enroute PTO:	YES
Fuel Economy Route:	Normal Route - City, Suburban, and Highway
ID Wheel Slip Conditions:	Yes
Parked PTO:	NO
Road Governor/Cruise Ctrl:	No
Road Surface Type:	TYPICAL
Vehicle Vocation:	GENERAL ON HIGHWAY
Air Conditioner (hp):	3.20
Air Compressor (hp):	2.20
Steering Gear (hp):	2.60
Alternator (a):	40
Acceleration Grade (%):	0.0
Acceleration Vehicle Spd (mph):	55.0
Frontal Area (ft2):	76
PTO Engine Power (hp):	15
PTO Engine Speed (rpm):	1800
Relative Drag Coefficient:	85
Speed Limit on Route (mph):	61.0
Vehicle Height (in):	114
Vehicle Width (in):	96
Weight on Drive Axle (lbf):	26000
Tire, Front Quantity:	2 - RADIAL WIDEBASE
Tire, Rear Quantity:	4 - RADIAL NORMAL

Components

0002ARZ	AXLE, FRONT NON-DRIVING {Meritor MFS-18-133A} Wide Track, I-Beam Type, 18,000-lb Capacity
0004SPA	AIR COMPRESSOR {Cummins} 18.7 CFM
0005PTB	STEERING GEAR (2) {Sheppard M-100/M-80} Dual Power
0008GDS	ALTERNATOR {Delco Remy 34-SI} 12-Volt 135 Amp. Capacity, Brushless; With Pad Mounting
0012CWZ	ENGINE, DIESEL {Cummins ISM 320V} 50 State 305 HP @ 2100 RPM Governed Speed; 1150 lb-ft Torque @ 1200 RPM; 320 Peak HP (Max)
0012THJ	FAN DRIVE {Horton Drivemaster} Automatic On/Off Type Control, With Normally Closed Temperature Control
0013AGV	TRANSMISSION, AUTOMATIC {ALLISON 4500_RDS_P} Wide Ratio, 6-Speed, With Double Overdrive; Includes Oil Level Sensor, With PTO Provision, Less Retarder
0014ASA	AXLE, REAR, SINGLE {Meritor RS-26-185} Single Reduction, Standard Track, 26,000-lb Capacity, Includes Driver Controlled Main Locking Differential and "R" Wheel Ends
0016030	CAB Conventional, Steel
0016WKB	AIR CONDITIONER {International Blend-Air} With Integral Heater & Defroster
07382150192	TIRE, REAR 12R22.5 UNISTEEL G124 M+S (GOODYEAR) 482 rev/mile, load range H, 16 ply
07702650164	TIRE, FRONT 385/65R22.5 UNISTEEL G286A (GOODYEAR) 490 rev/mile, load range J, 18 ply

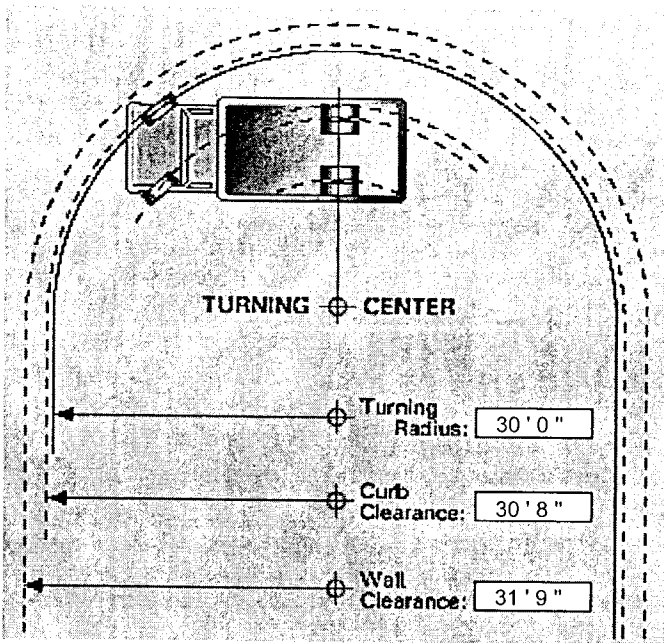
TCAPE HAS BEEN DESIGNED TO GIVE ECONOMY AND PERFORMANCE PREDICTIONS WHICH HAVE BEEN SHOWN TO BE TYPICAL FOR MOST OPERATIONS. HOWEVER, DUE TO OPERATING CONDITIONS, DRIVER INFLUENCES, AND OTHER FACTORS, YOUR RESULTS MAY VARY FROM THOSE PREDICTED. ALSO, BECAUSE OF FUEL MAPPING PROCEDURES USED BY VARIOUS ENGINE MANUFACTURERS, COMPARISONS OF FUEL ECONOMY RESULTS FOR DIFFERENT BRANDS OF ENGINES MAY VARY FROM THOSE SHOWN.

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REQUIRED TCAPE INFORMATION

Turning Radius Summary
2006 7600 SFA 4x2 (SA547)

August 12, 2005



Series: 7000
Model: SA547
Description: 7600 SFA 4X2

Calculation Factors

Wheelbase: 187
Front Axle: 0002ARZ
Description: AXLE, FRONT NON-DRIVING, {Meritor MFS-18-133A} Wide Track, I-Beam Type, 18,000-lb Capacity

Front Wheel: 0027DNP
Description: WHEELS, FRONT, DISC; 22.5" Painted Steel, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 12.25 DC Rims; With Steel Hubs.

Front Tire: 07702650164
Description: TIRES, 385/65R22.5 UNISTEEL G286A (GOODYEAR) 490 rev/mile, load range J, 18 ply

Steering Gear: 0005PTB
Description: STEERING GEAR, (2) {Sheppard M-100/M-80} Dual Power

* Wall Clearance not adjusted for frame ext. at this time.

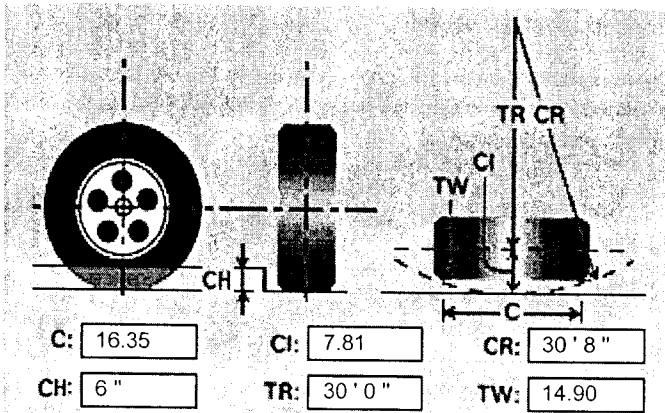
Turning Radius Statistics

General Information

Inside Turn Angle: 40.00 Degrees
Radial Overhang: 21.00

Axle Information

Kingpin Inclination: 6.25 Degrees
Kingpin Center: 71.00



Turning Radius - Curb View

C - Curb Contact Length: 16.35
CI - Curb Clearance Increment: 7.81
CR - Curb Clearance Radius: 30' 8"
CH - Curb Height: 6"
TR - Turning Radius: 30' 0"
TW - Tire Width: 14.90

* All measurements are in inches, unless otherwise specified.

This information is based on engineering information available at this time. Actual figures may vary. International Truck and Engine Corporation cannot accept liability for consequences due to this variance.